TSN detailed guidance

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1. Costs and Cost Analysis Defined

Contract costs are monetary measures of the resources required to complete a contract.

A direct contract cost is any cost that can be identified specifically with a final cost objective.

An indirect cost is any cost NOT directly identified with a single final cost objective, but identified with two or more final cost objectives or an intermediate cost objective.

Identifying Key Cost Analysis Considerations

Technical cost analysis is the review and evaluation of the separate cost elements in an offeror's or contractor's proposal (including cost or pricing data or information other than cost or pricing data), and application of judgment used to determine how well the proposed costs represent what the cost of the contract should be, assuming reasonable economy and efficiency.

1.2.2. Cost analysis should be used to evaluate the reasonableness of cost elements when cost or pricing data are required. Technical cost analysis may be requested by the negotiator if they require additional expertise to understand a proposal.

A cost is reasonable if, in its nature and amount, it does not exceed the cost which would be incurred by a prudent person in the conduct of competitive business.

To be realistic (FAR 15.401), the costs in an offeror's proposal should be:

- Realistic for the work to be performed under the contract;

- Reflect a clear understanding of contract requirements; and
- Consistent with the various elements of the offeror's technical proposal.
- As appropriate, use the following techniques and procedures to perform cost analysis:
- Verify cost or pricing data or information other than cost or pricing data.
- Evaluate cost elements, including:
    - The necessity for and reasonableness of proposed costs, including allowances for contingencies;
    - Projections of the offeror's cost trends, on the basis of current and historical cost or pricing data or information other than cost or pricing data;
    - A technical appraisal of the estimated labor, material, tooling, and facilities requirements, and scrap and spoilage factors; and
    - The application of audited or negotiated indirect cost rates, labor rates, cost of money factors, and other factors.
    - Evaluate the effect of the offeror's current practices on future costs.
    - Ensure that the effects of inefficient or uneconomical past practices are not projected into the future.

In pricing production of recently developed complex equipment, perform a trend analysis of basic labor and materials even in periods of relative price stability. Compare costs proposed by the offeror for individual cost elements with:

- Actual costs previously incurred by the offeror;
- Previous cost estimates from the offeror or cost estimates for similar items; and
- Independent Government cost estimates by technical personnel.

Determine whether any cost or pricing data necessary to make the contractor's proposal accurate, complete, and current have not been either submitted or identified in writing by the contractor. If there are such data:

- Attempt to obtain the data and use the data obtained, or
- Note that incomplete data was available.

- Analyze the results of any make-or-buy program reviews in evaluating subcontract costs.

Defining the Cost Estimating and Cost Accounting Relationship

Cost Estimating System (FAR 15.407-5, DFARS 215.407-5-70(a), 215.407-5-70(d), and 252.215-7002).

A contractor's cost estimating system is the policies, procedures, and practices for generating cost estimates and other data included in cost proposals submitted to customers in the expectation of receiving contract awards. It includes the contractor's:

- Organizational structure;
- Established lines of authority, duties, and responsibilities;
- Internal controls and managerial reviews;
- Flow of work, coordination, and communication; and
- Estimating methods, techniques, accumulation of historical costs, and other analyses used to generate cost estimates.

An acceptable estimating system should provide for the use of appropriate source data, utilize sound estimating techniques and good judgment, maintain a consistent approach, and adhere to established policies and procedures.

Cost Accounting System (DCAM 9.302a). An effective cost estimating system integrates applicable information from a variety of company management systems. The accounting system is not the only source of such information, but it is the primary source.

A firm's accounting system consists of the methods and records established to identify, assemble, analyze, classify, record, and report the firm's transactions and to maintain accountability for the related assets and liabilities. The accounting system should be well-designed to provide reliable accounting data and prevent mistakes that would otherwise occur.

An inadequate cost accounting system can provide data that are not current, accurate, and complete in support of an offeror's proposal.

To provide the data required for cost estimating purposes, a firm's cost accounting system should contain sufficient refinements to provide (where applicable) cost segregation for:

- Preproduction work and special tooling;

- Prototypes, static test models, or mockups;
- Production by individual production centers, departments, or operations-as well as by components, lots, batches, runs or time periods;
- Engineering by major task;
- Each contract item to be separately priced;
- Scrap, rework, spoilage, excess material, and obsolete items resulting from engineering changes;
- Packaging and crating when substantial; and
- Other nonrecurring or other direct cost items requiring separate treatment.

Describing Cost Estimating Methods

An offeror may use any generally accepted estimating method that is equitable and consistently applied.

A comparison estimating method can project continuation of nonrecurring costs and cost inefficiencies experienced in past work.

2. Obtaining Offeror Information for Cost Analysis return to TOC

Information Other than Cost or Pricing Data (FAR 15.401 and 15.406-2).
Is any type of information required to determine price reasonableness or cost realism that does not require offeror certification as accurate, complete, and current in accordance with FAR 15.406-2?

May include pricing, sales, or cost information.

Includes cost or pricing data for which certification is determined inapplicable after submission.

Cost or pricing data:

- Are all facts that, as of the date of price agreement or, if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on price, prudent buyers and sellers would reasonably expect to affect price negotiations significantly.
- Require certification as accurate, complete, and current in accordance with FAR 15.406-2.
- Are factual, not judgmental, and are verifiable.

- Include the data that form the basis for the prospective offeror's judgment about future cost projections. The data do not indicate the accuracy of the prospective contractor's judgment.

- Are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred.

Cost or pricing data include such factors as:

- Vendor quotations;

- Nonrecurring costs;

- Information on changes in production methods and in production or purchasing volume;

- Data supporting projections of business prospects and objectives and related operations costs;

- Unit-cost trends such as those associated with labor efficiency;

- Make-or-buy decisions;

- Estimated resources to attain business goals; and

- Information on management decisions that could have a significant bearing on costs.

2.1 - Recognizing the Need for Cost or Pricing Data

2.1.1 TINA Cost or Pricing Data Requirements (FAR 15.403-4(a) (1)). Unless an exception applies, the Truth in Negotiations Act (TINA), as amended, requires the contracting officer to obtain cost or pricing data before accomplishing any of the following actions when the price is expected to exceed the applicable cost or pricing data threshold.

The award of any negotiated contract (except for undefinitized actions such as letter contracts).

The award of a subcontract at any tier, if the contractor and each higher-tier subcontractor have been required to furnish cost or pricing data.

The modification of any sealed bid or negotiated contract (whether or not cost or pricing data were initially required) or subcontract.

For a new contract, the applicable cost or pricing data threshold is the current threshold on the date of agreement on price, or the date of award, whichever is later.

For prime contract modifications, new subcontracts at any tier, and subcontract modifications, the applicable cost or pricing data threshold is established by the prime contract.

If none of the exceptions or prohibitions apply, the head of the contracting activity (without power of delegation) may authorize the contracting officer to require cost or pricing data for any contract action at or below the cost or pricing data threshold.

2.2 - Obtaining Cost or Pricing Data

2.2.1 Refer to FAR Table 15-2, Instructions for Submitting Cost/Price Proposals When Cost or Pricing Data Are Required

2.3 - Proper Cost or Pricing Data Certification

2.3.1 A Properly Executed Certificate

Certificate of Current Cost or Pricing Data

"This is to certify that, to the best of my knowledge and belief, the cost or pricing data (as defined in section 15.401 of the Federal Acquisition Regulation (FAR) and required under FAR subsection 15.403-4) submitted, either actually or by specific identification in writing, to the contracting officer or to the contracting officer's representative in support of _____(proposal) are accurate, complete, and current as of _____(day, month, and year when price negotiations were concluded and price agreement was reached). This certification includes the cost or pricing data supporting any advance agreements and forward pricing rate agreements between the offeror and the Government that are part of the proposal."

2.3.2 Consequences of Certifying Defective Data

Defective pricing exists when any price, including profit or fee, for any purchase action covered by a Certificate of Current Cost or Pricing Data, is increased by any significant amount because the data were not accurate, complete, or current.

2.4 Recognizing Situations Where Information Other Than Cost or Pricing Data is required (FAR 15.402 and 15.404-1(d)).

An offeror may be required to submit cost information other than cost or pricing data when the contracting officer expects that the offeror will be excepted from submitting certified cost or pricing data, but cost information is needed to determine price reasonableness or cost realism.

3. Identifying Considerations Affecting Cost Allowability return to TOC

3.1 Cost Allowability (FAR 31.201-1(b)).

3.1.1 While the total cost of a contract includes all costs properly allocable to the contract, the costs which the Government will pay are limited to those costs which are allowable pursuant to FAR Part 31 and applicable agency supplements. Consider Reasonableness, Allocability and Necessity (FAR 31.201-2) when determining cost allowability.

3.2 Cost Measurement, Assignment, and Allocability

3.2.1 For contracts covered by the cost accounting standards (CAS), costs are subject to measurement, assignment, and allocability provisions.

3.2.2 For those contracts that are not subject to the CAS, and for those areas of cost that are not covered by the standards, the measurement, assignment, and allocability provisions of FAR Part 31 apply.

3.2.3 When the CAS does not apply (or is silent regarding the measurement or assignment of a particular area of cost) and FAR Part 31 does not specifically address the measurement or assignment of a particular area of cost, the provisions of Generally Accepted Accounting Principles (GAAP) should be followed.

3.3 - Cost Accounting Standards

3.3.1 Cost Accounting Standards are issued by the Cost Accounting Standards Board (CASB).

When a contract is CAS-covered, the Standards take precedence over all other accounting rules or guidance.

Under contracts awarded using negotiation procedures, CAS applies unless the contract or offeror is specifically exempt from CAS requirements (FAR App B, 9903.201-1).

There are two types of coverage for noncommercial contracts and subcontracts; full and modified (requires that the business unit comply with only CAS 401, 402, 405, and 406).

3.3.2 A Disclosure Statement (FAR App B, 9903.202-1) is a written description of a contractor's cost accounting practices and procedures.

It contains general information on its accounting system and specific information on how the firm accounts for specific types of costs.

The cognizant ACO and DCAA auditor have primary responsibility for the Disclosure Statement review.

3.4 - Identifying Allowability Factors to Consider

3.4.1 - Factors That Affect Cost Reasonableness

A cost is reasonable (FAR 31.201-3(a) if, in its nature and amount, it does not exceed what a prudent person would incur in the conduct of competitive business.

The offeror should demonstrate the reasonableness of any incurred cost and cannot simply state that, because the expense has been incurred, it is automatically reasonable.

3.4.2 - Contract Terms That Affect Cost Allowability

Specific types of cost are often addressed in a contract, however, the contract terms can only be more restrictive than the other factors that should be considered in determining cost allowability, not less.

3.5 - Determining the Allowability of Specific Costs

3.5.1 Specific cost principles for contracts with commercial organizations are found in (FAR 31.205).

4. Collecting Information to Support Cost Analysis return to TOC

Cost analysis begins with market research prior to proposal receipt.

4.1 - Recognizing Relevant Information for Cost Analysis

4.1.1 Examining Related Contract Files

Use Historical Contract Information

Identify Past Problems/Precedents

Identify any differences between the contracting situations of the past and the current contracting situation.

Have there been any changes in production methods?

Have there been any changes in the offeror's make-or-buy program?

Have contract requirements changed?

Have the offeror's accounting practices changed?

Has business or general economic conditions changed?

4.1.2 Examining Relevant Audits and Technical Reports

Obtain audits or technical reports from other offeror proposals and reports on previous procurements of identical or similar items.

4.1.3 Examining Reviews of Offeror's Systems

Contractor Purchasing System Review

Contractor Accounting System Review

Contractor Estimating System Review

4.1.4 Examining Industry Cost Estimating Guides and Standards

If applicable, industry cost estimating guides and standards provide excellent information on cost.

4.2 - Requesting Acquisition Team Assistance

4.2.1 Technical field pricing assistance to analyze a subcontract proposal will not normally be requested unless if it will serve a valid Government interest (e.g., determining total price reasonableness).

4.2.2 Field pricing assistance may be requested when one or more of the following situations exist (DFARS 215.404-3(a)):

The business relationship between the prime contractor and the subcontractor is not conducive to independence and objectivity;

The prime contractor is a sole source and the subcontract cost represents a substantial part of the proposed contract cost;

The prime contractor has been denied access to the prospective records;

The contracting officer determines that factors (e.g., proposed subcontract dollar value) make audit or field pricing assistance critical to a fully detailed prime contract proposal analysis;

The contractor or higher-tier subcontractor has been cited for having significant estimating system deficiencies in the area of subcontract pricing, especially a failure to perform;

Adequate subcontract cost analyses; or

Timely subcontract analyses prior to negotiation of the prime contract with the Government; or

A lower-tier subcontractor has been cited as having significant estimating system deficiencies.

4.3 - Evaluating Acquisition Team Assistance

4.3.1. The ACO should contact the contracting officer if proposal deficiencies are so great as to preclude review or if the offeror or contractor denies the evaluator access to any records considered essential to the conduct of a satisfactory review. Oral notifications should be confirmed promptly in writing including a description of deficient or denied data or records.

4.3.2. Technical reports may accept an offeror's proposal or present an alternative position based on a different analysis of the available facts.

Differences between the proposed amount and the recommended amount are identified as exceptions.

Each report should clearly communicate its recommendations and stand on its own.

Each conclusion, whether it agrees with or disputes the offeror's proposal, should be accompanied by an understandable rationale. A good evaluation will state what was analyzed and how it was analyzed.

The analysis may produce recommendations that are more accurate than the estimates submitted by the offeror, and should be reported regardless of whether the recommended cost is higher or lower than the costs proposed. The negotiator’s objective is to obtain a fair and reasonable price.

5. Defining and Evaluating Work Design for Contract Performance return to TOC

5.1. To understand and evaluate work design, break total cost into its basic elements. The proposal should include a description of the structure used in preparing the proposal. Each lower level of cost should further break total cost

into its component costs until the foundation for proposal development is reached.

5.1.1. The work package should:

- Serve as the foundation for proposal development;
- Describe a detailed short-term task that can be identified and controlled by the contractor in assigning contract effort;
- Distinguish the task to be performed from the work identified in all other work packages;
- Assign responsibility for work package completion to a single operating organization of the firm;
- Identify objective start and completion events which:
    - Are associated with physical accomplishments;
    - Can be scheduled to calendar dates; and
    - Can be objectively measured;
    - Include a budget expressed in terms of dollars, work hours, or other measurable units.
    - Minimize work in progress.

5.2. Identifying the Offeror's Planning Assumptions

5.2.1 - Identifying Basic Planning Assumptions

Each proposal cost estimate is based on certain planning assumptions, whether the assumptions are identified or not. A good proposal will specifically identify key assumptions. These assumptions are basic to cost estimate development, therefore cost analysis begins by identifying the offeror's assumptions.

Two basic predictions are the future will be the same or different as the past. The choice will govern the extent that historical data is used.

Develop a recommendation on whether assumptions are realistic and consistent, and how they affect the proposal. The following questions should be addressed:

- Is the proposal assumption realistic?
- Is the assumption consistent with the rest of the proposal?

- How does the proposal assumption affect contract cost?

5.2.2 - Analyzing Specific Assumptions

Most assumptions will involve the effect of one of the following on contract performance:

General performance problems;

An offeror will try to anticipate problems in the project that will affect contract cost. The proposal should estimate the likelihood that the problem will occur and the cost involved.

Technology changes;

The offeror should assess the likelihood of technological change and the effect of the change on contract cost. An offeror may ignore expected advancements that will lower contract cost. Recommendations in this area should be careful to avoid unrealistic cost savings that may not materialize.

Interruptions and shortages

Interruptions or shortages will result in a cost to the offeror.

Determine if the contractor can prevent the interruption or shortage without additional cost

Ensure the costs are not duplicated in historical data

5.3 Applying Should-Cost Principles in Objective Development

The objective of cost analysis is to develop a position on what the contract should cost, assuming reasonable economy and efficiency.

5.3.1 - Identifying Causes of Inefficient or Uneconomical Performance

Examine the tasks and subtasks within the work packages of the contractor's proposal to see if they are necessary and if they really add value to the final product.

Examine offeror-proposed methods for possible improvement. Consider both different methods and improvements to existing methods. Question any methods that appear inefficient or uneconomic.

Examine facilities and facility layout for possible changes that might reduce costs and improve contract performance.

Examine equipment and contract requirements for possible inefficient or uneconomical performance. Equipment may be inefficient, out of tolerance, or expensive and time consuming to maintain. The projected production rate may be significantly greater or less than the optimum rate for the equipment. Review the total shop loading for a machine or work station, not just the current proposal.

Examine the effect of management systems on contract performance and contract cost. In particular, look for inefficient or unnecessary systems. Since business automation has reduced the need for many clerical and mid-level management functions, these functions are good targets for improvement. Look for ways to eliminate non value-added functions and shorten the line of communication and authority.

5.3.2. Formal Should-Cost Review

A formal should-cost review per FAR 15.407-4 is a multifunctional team evaluation of the economy and efficiency of the contractor's existing work force, methods, materials, facilities, operating systems, and management. Participation in a should-cost review effort is beyond the scope of this guidance.

5.4 Recognizing Cost Risk

5.4.1. Identifying Principal Sources of Cost Risk

Investment risk -- the risk in recovering the money invested by the offeror to perform the job.

Economic risk -- the risk in earning a reasonable profit on the investment, especially when compared to other possible investments.

Performance risk -- the risk in successfully performing the work required by the contract.

5.4.2. Assessing the Level of Risk

An essential element of the technical analysis is the evaluator’s risk assessment. The contractor’s stated assumptions and contingency planning should be documented in order to avoid duplication in the form of higher profit or fees.

5.4.3. How Contract Type Mitigates Risk

Cost-reimbursement contracts provide for reimbursement of all allowable contract costs whether or not the contractor completes all contract requirements.

A Firm Fixed-Price (FFP) (FAR 16.202) contract is used when the contractor is able to accurately estimate the cost of the work called for in the contract. It places all cost risk on the contractor.

A Fixed-Price-Economic Price Adjustment (FPEPA) (FAR 16.203 and DFARS 216.203) contract is used when there are volatile economic conditions (e.g., an unstable labor or material market) outside of the contractor's control that could affect contract cost, a FFP contract may not cover the offeror's cost risk sufficiently.

A Fixed-Price Incentive Fee (FPIF) (FAR 16.204 and 16.403-1) contract is used in circumstances where contract requirements are largely defined but major performance uncertainty still exists. There will still be major cost risk yet much of that risk can be limited by effective contract performance.

A Cost-Plus-Incentive-Fee (CPIF) (FAR 16.304, 16.405-1, and DFARS 216.405-1) contract is used to motivate the contractor to control costs such as for the development and testing of a new system where the offeror's risk may be too high for any fixed-price type contract.

A Cost-Plus-Award-Fee (CPAF) (FAR 16.305, 16.405-2, and DFARS 216.405-2) contract is used when the required contract level of effort is uncertain and it is neither feasible nor effective to devise predetermined incentive targets based on cost, performance, or schedule. It enhances the likelihood of meeting acquisition objectives by use of a flexible plan that awards fee after an evaluation of both performance and the conditions under which it was achieved. The award fee consists of two parts, a base fee agreed to at the time of contract award, and an award fee that the contractor may earn in whole or in part during contract performance based on specific criteria. Fee evaluations occur at stated points during contract performance.

A Cost-Plus-Fixed-Fee (CPFF) (FAR 16.306) contract is used when the work required to complete a contract is so uncertain that establishment of predetermined targets and incentive sharing arrangements could result in a final fee out of line with the actual work performed.

5.4.4 - Clear Technical Requirements Mitigate Risk

The inherent risk of a contract is lessened by using clear contract technical requirements. If technical problems are identified, they should be brought to the attention of the contracting officer immediately.
The Government will be held liable, as writer of the contract, for any ambiguity, conflict or impossible requirement resulting in additional costs.

6. Analyzing Direct Material Costs

return to TOC

6.1 - A direct material cost is any material cost that can be identified specifically with a final cost objective (e.g., a particular contract).

6.1.1 Identifying Material Cost Elements

The cost of materials used to complete a contract normally includes more than just the cost of the materials that actually become part of the product. Costs typically include:

- Raw materials, parts, subassemblies, components, and manufacturing supplies that actually become part of the product;
- Collateral costs, such as freight and insurance; and
- Material that cannot be used for its intended purpose (e.g., overruns, spoilage, and defective parts).

6.1.2 Identifying Collateral Costs

Collateral costs are expenses associated with getting materials into the offeror's plant.

6.1.3. Identifying Related Costs

Estimates of excess materials that the offeror proposes to purchase to assure that sufficient material is available for production of the item. Estimates may include costs related to material overruns, scrap, spoilage, or defective parts.

Estimates of these costs are usually developed using a cost estimating relationship (CER) -- a relationship between the cost and some independent variable related to a parameter of the item or service being acquired or a related contract cost. The proposal and related documentation should provide adequate analysis and statistical data to identify and support any CER used in estimating direct material cost.

Overruns are the purchase or production of more units than are required by the job.

For example: A minimum order quantity requirement is a common example. An assembly requires 25 units of a special part that can only be bought in quantities of 100. If the part can only be used on the one contract, the cost for all 100 units is reasonable. On the other hand, if the part has general application to other items produced by the firm, only the units to be used on one contract are reasonable.

Spoilage can be many things. Some of the more common types of spoilage are:

Shelf-life is the length of time some materials retain their usable properties while waiting to be used, after that time they should be discarded.

For example: Industrial silicon rubber compounds are used as coatings or adhesives in many manufacturing processes. If these compounds are not used within a certain time period, they lose their usable properties and have to be discarded.

Obsolescence can occur anytime there is a large inventory that will meet needs for a long period. Materials may become obsolete due to design changes that require new parts or materials, thus rendering the old inventory useless.

For example: Item specifications are changed. A production part is now obsolete because it is no longer needed for production.

Defective Parts. Defective parts are items that fail to meet specifications. Depending on the classification of the defect, such parts can be scrapped,

reworked, or "used as is." Defective parts are also known as "yield." Whether a defective part is usable as is, reworkable, or scrap, there are costs associated with the action that should be considered.

The technical evaluator should determine the causes of defective parts. If data indicates that poor workmanship or ineffective process controls are the cause, and the contractor could reasonable be expected to do better, a recommendation should be made to reduce costs accordingly.

Scrap results if the defective part cannot be used for its intended purpose or made usable.

Rework is the process of taking the defective part and working on it again to correct the identified defects. If, after rework, the item meets specifications, it can be accepted. If the reworked item fails inspection again, it may be either reworked again or scrapped.

Rework cost is normally seen in labor expense. However, rework does help reduce scrap costs. Depending on the offeror's accounting system, the material used during rework may be accounted for separate from normal scrap.

“Use as is” means the defect does not affect the part's ability to perform its intended function. It is classified as a minor waiver of specifications.

After a part has been properly examined and approved for use by the offeror's quality system, a "use as is" part can be incorporated into the end product. The costs associated with making the "use as is" decision are normally quality assurance labor and overhead. The value of the part is not affected unless a specific cost reduction is negotiated by the contractor and the Government. Corrective and preventive action should take place before an accumulation of minor waivers merits a negotiated cost reduction.

6.1.4. Planning For Further Analysis

Before starting direct material cost analysis, look for indicators of uneconomical or inefficient practices. Material items with a large dollar value or unusual requirements normally rate in-depth analysis.

Identify and evaluate the methodology used by the offeror to estimate direct material cost

Identify any proposed direct material that does not appear necessary to the contract effort

Identify any proposed direct material that should be classified as an indirect cost

Identify any proposed direct material costs that merit special attention because of high-value or other reasons

Assure that preliminary concerns about material cost estimates are well documented

6.2. Analyzing Summary Cost Estimates

6.2.1 Material cost may be estimated on a total cost basis without the benefit of a detailed cost breakdown of units and cost per unit.

Determine whether use of summary cost estimates is appropriate for the estimating situation.

Determine which summary estimating technique(s) was used in proposal development.

Determine if cost estimating relationships (CERs) used in the proposal were properly developed and applied.

Determine if direct comparisons used in the proposal have been properly developed and applied.

6.3. Analyzing Detailed Quantity Estimates

6.3.1. A bill of materials is a listing of all the materials, including the part numbers and quantities of all the parts required to complete the contract. When the contract is complex, there may be individual bills of material for different contract tasks or line items. If the estimate includes more than one task or item bill of materials, the offeror should submit a consolidated bill of materials for all items, with a breakdown suitable for analysis. The estimate should identify the item, the source, the quantity, and the price.

Select a sampling strategy for analysis.

Determine the reasonableness of the base estimate of direct material quantities required to complete the contract by comparison with drawings and other relevant contract requirements.

Determine the reasonableness of any adjustments to the base estimate of direct material quantities required to complete the contract.

If you accept the offeror's quantity estimate, document that acceptance.

If you do not accept the quantity estimate, document your concerns with the estimate and develop a recommendation for direct material costs covered by the estimate.

If you can identify information that would permit you to perform a more accurate analysis of material costs, use the available information. Your analysis is not bound by the estimating methods used by the offeror.

6.4. Analyzing Unit Cost Estimates

6.4.1. Determine if the offeror used an appropriate base for estimating unit material costs.

6.4.2. Determine the reasonableness of material unit cost estimates based on current quotes.

6.4.3. Determine the reasonableness of material unit cost estimates based on historical quotes or purchase prices.

6.4.4. Determine the reasonableness of material unit cost estimates based on inventory pricing.

6.4.5. Determine the reasonableness of interorganizational transfers.

6.4.6. Develop and document a recommendation on unit costs for direct materials.

6.5. Recognizing Subcontract Pricing Responsibilities

6.5.1. The firm awarding the subcontract (the offeror or a higher-tier subcontractor), is responsible for subcontract pricing. At the same time, the contracting officer is responsible for the total price paid by the Government, and should be satisfied that each subcontracting tier has performed an adequate cost or price analysis of each subcontract proposal. Part of that responsibility is to assure that the subcontracting activity has performed an appropriate price or cost analysis.

6.5.2. The firm awarding a subcontract should include the results of these analyses as part of its own cost or pricing data submission. Lower-tier subcontract analyses become part of higher-tier submissions, and eventually the prime contractor's submission to the Government. Consider a firm's failure to analyze subcontract costs as a potentially significant estimating system deficiency.

6.5.3. If the prime contractor is unable to evaluate the subcontractor’s costs, the contractor may request government cost analysis. The contracting officer may initiate field pricing if they believe the prime has not sufficiently evaluated the subcontractor’s costs.

6.5.4. In a contracting environment where the prime is a lead system integrator, performance risk lies almost entirely with the subcontractors, and the likelihood and importance of field pricing support is greatly enhanced.

7. Analyzing Direct Labor Costs **return to TOC**

7.1. Identifying Direct Labor Costs for Analysis

7.1.1. Identifying Direct Labor Classifications

Each offeror should have a position classification system which serves as a guide for personnel selection and assignment.

A position description is the documentation of the types of work (i.e., duties and responsibilities) assigned to an employee. That description should identify specific position duties and responsibilities, as well as, qualification requirements (knowledge, skills, and abilities).

A position class is a grouping of all positions that share the same title and pay level.

Position classification plans identify the classes of labor employed by the firm and provide guidelines for determining the title and pay level of each position in the firm. The position classes and labor rates identified in the proposal should be consistent with the offeror's classification plan.

7.1.2. Identifying Major Types of Direct Labor

Direct Labor Cost. A direct labor cost is any labor cost that can be identified specifically with a final cost objective (e.g., a particular contract).

Labor costs identified specifically with a particular contract are direct costs of the contract and should be charged to that contract.

Labor costs should not be charged to a contract as a direct cost if other labor costs incurred for the same purpose in like circumstances have been charged as an indirect cost to that contract or any other contract.

All labor costs specifically identified with other contracts are direct costs for those contracts and should not be charged to another contract directly or indirectly.

Indirect Labor Cost. An indirect labor cost is any labor cost not directly identified with a single final cost objective, but identified with two or more final cost objectives or an intermediate cost objective. For reasons of practicality, any direct labor cost of minor dollar amount may be treated as an indirect cost if the accounting treatment:

Is consistently applied to all final objectives, and

Produces substantially the same results as treating the cost as a direct cost.

7.1.3. Planning For Further Analysis

Identify and evaluate the methodology used by the offeror to estimate direct labor cost.

Identify any proposed direct labor cost that does not appear reasonable.

Identify any proposed direct labor cost that should be classified as an indirect cost.

Identify any proposed direct labor cost that merits special attention because of high value or other reasons.

Document concerns about direct labor cost estimates.

7.2. Analyzing Labor-Hour Estimates

Give special attention to any direct labor-hour concerns identified during your preliminary review of direct labor cost estimates.

Determine whether the estimating method is appropriate for the estimating situation.

Determine whether the estimating method was properly applied.

7.2.1. Analyzing Round-Table Estimates

Round-table labor-hour estimates are based on experience and judgment without using detailed drawings or a bill of materials, and with limited information on specifications.

This method should only be used in situations where detailed drawings, bills of material, and firm specifications are not available.

7.2.2. Analyzing Comparison Estimates

To develop a comparison labor-hour estimate, an estimator should first determine the cost to complete the same or similar work in the past. Then the estimator should develop an estimate of future contract cost based on the historical experience. Comparisons can be simple or involve the use of complex quantitative techniques.

Comparisons may be based on a direct comparison with the hours it took to perform the same or similar effort in the past. The effort may be a specific task or a level of effort. The comparison may be used to estimate the labor cost for an entire contract or a segment of the contract.

A cost estimating relationship (CER) is a technique used to extend comparisons. Instead of simply basing a labor-hour estimate on the labor hours required to complete a similar task in the past, an estimator can develop CER that relates changes in cost to changes in an independent product variable or group of independent variables.

7.2.3. Analyzing Estimates Developed Using Labor Standards

A labor standard is a measure of the time it should take for a qualified worker to perform a particular operation.

Engineered Standards are developed using recognized principles of industrial engineering and work measurement. The standards developed define the time necessary for a qualified worker, working at a pace ordinarily used, under capable supervision, and experiencing normal fatigue and delays, to do a defined amount of work of specified quality when following the prescribed method.

Non-engineered Standards are developed using the best information available without performing the detailed analysis required to develop an engineered standard. Historical costs are commonly used standards that are often a measure of the hours that have been required to complete a task rather than the hours that should be required. If there has been no engineering analysis of what the task completion time should be, the estimate should be analyzed like any other comparison estimates.

7.3. Analyzing Labor-Rate Estimates

7.3.1. Considering Government Labor-Rate Requirements

The Government auditor and the administrative contracting officer (ACO) are the two Government Acquisition Team members who have the most in-depth knowledge of a firm's compensation package and accounting procedures. The auditor is the only Government Acquisition Team member with general access to the offeror's accounting records. The ACO is responsible for negotiating Forward Pricing Rate Agreements (FPRAs), including labor-rate agreements.

7.3.2. Considering the Skill Mix of Labor Effort

Is the proposed skill mix reasonable for the work required?

Did the offeror use a weighted-average labor rate? Is it appropriate for the proposed work?

7.3.3. Considering the Time Period of Labor Effort

The offeror's proposal should include labor-loading schedule -- a time-phased (e.g., monthly or quarterly) breakdown of labor hours, rates, and costs by labor category.

The proposal should include supporting rationale for the assignment of labor hours to future time periods and the pattern of labor-hour estimates in the schedule should match the pattern of work expected for contract performance.

8. Analyzing Other Direct Costs **return to TOC**

8.1. Other Direct Cost (ODC) is a cost that can be identified specifically with a final cost objective that the offeror does not treat as a direct material cost or a direct labor cost.

8.1.1. Examples of ODC:

- Special tooling and test equipment:
- Computer services;
- Consultant services;
- Travel;
- Federal excise taxes;
- Royalties;

- Preservation, packaging, and packing costs; and
- Preproduction costs.

8.1.2. Indicators of uneconomical or inefficient practices:

- Any proposed other direct cost that apparently should be classified as an indirect cost.
- Any proposed other direct cost that appears to duplicate another proposed direct cost.
- Any proposed other direct cost that does not appear reasonable.
- Any proposed other direct cost that merits special attention because of high value or other reasons.

8.2. Analyzing Cost Estimates - is the proposed other direct cost reasonable?

8.2.1. Analyzing Special Tooling and Test Equipment Costs

Special Tooling as defined in FAR 45.101 includes jigs, dies, fixtures, molds, patterns, taps, gauges, other equipment and manufacturing aids, all components of these items, and replacements for these items which are of such a specialized nature that without substantial modification or alteration their use is limited to the development or production of particular supplies or the performance of particular services. It does not include material, special test equipment, facilities (except foundations and similar improvements necessary for special tooling installation), general or special machine tools, or similar capital items.

Special Test Equipment as defined in FAR 45.101 includes single or multipurpose integrated test units engineered, designed, fabricated, or modified to accomplish special purpose testing in performing a contract. It consists of items or assemblies of equipment including standard or general purpose items of components that are interconnected and interdependent so as to become a new functional entity for special testing purposes. It does not include material, special tooling, facilities (except foundations and similar improvements necessary for special test equipment), and plant equipment items used for general plant testing purposes.

Questions to address:

- Is the proposed tooling or test equipment only usable on the proposed contract or is it general purpose (usable for other products/contracts)?
- Can the necessary task be performed at a lower total cost (equipment plus labor) with general purpose tooling or test equipment?

- Is the proposed special tooling or test equipment appropriate for the required period of use?
- Does the proposal include appropriate quantities of special tooling and test equipment?
- Is there Government owned tooling or test equipment available that can be used on a rent-free noninterference basis?
- Is the proposed cost reasonable for the special tooling or test equipment required?

8.2.2. Analyzing Royalty Costs

Confirm that the patented design or process is required to complete the proposed contract.

If the patented design or process resulted from work on a Government contract, the Government should hold a royalty-free license to use the patent.

8.2.3. Analyzing Preservation, Packaging, and Packing Costs

Preservation, Packaging, and Packing (FAR 14.201-2(d) and 15.204-2(d)). Each solicitation and contract should describe any necessary preservation, packaging, and packing requirements adequate to prevent deterioration of supplies and damage due to the hazards of shipping, handling, and storage.

8.2.4. Analyzing Preproduction Costs

Preproduction costs, also known as start-up or non-recurring costs are associated with the initiation of production under a particular contract or program. Examples of preproduction costs include:

- Preproduction engineering;
- Special tooling;
- Special plant rearrangement;
- Training programs;
- Initial rework or spoilage; and
- Pilot production runs.

9. Analyzing Factors Affecting Profit/Fee

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Profit/Fee (FAR 15.404-4(b)) is the dollar amount over and above allowable costs that is paid to the firm for contract performance. The technical evaluator does not directly address profit or fee, however, the technical report is used to determine degree of risk and complexity of the effort that are factors in determining profit.

11.1. Factors for Performance Risk Analysis

Risk Type	Examples of Factors to Be Considered
Technical	Technology being applied or developed by the contractor Technical complexity Program maturity Performance specifications and tolerances Delivery schedule Extent of warranty or guarantee
Management/Cost Control	Contractor's management and internal control systems Management involvement expected under the contract Resources applied and value added by the contractor Adequacy of management's approach to controlling cost and schedule Other factors affecting contractor's ability to meet cost targets

10. Inputs to Negotiation

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12.1. Documenting Recommendations

The technical report should outline the offeror's estimating rationale, the Government's recommendations, and key differences between the two positions. Generally, this summary begins with a tabular presentation similar to the following:

Cost Element	Proposed	Recommended	Difference	Reference
Engineering Direct Labor	$1,000,000	$900,000	$100,000	See Para A
Material	$2,500,000	$2,025,000	$475,000	See Para B

The technical report should document the facts, recommended labor, material and ODC, and persons contacted for all applicable elements of cost. It should cover the topics addressed in this guide, as applicable, and be structured to mirror the contractor's proposal. It should also include a statement of independence when reporting to a DCAA audit request. The signed statement must contain the statement "The analyst(s) was (were) free from any personal or external impairments that would preclude independent evaluation of the subject."